

REMARKS

The Examiner rejected claims 2 and 9 under 35 U.S.C. § 103(a) as being unpatentable over the admitted prior art of the present application (hereinafter “APA”) in view of Takao et al. (U.S. Patent No. 5,920,220) (hereinafter “Takao”); rejected claims 3 and 10 under 35 U.S.C. § 103(a) as being unpatentable over the APA in view of Takao and further in view of Touzni et al. (U.S. Patent No. 7,031,405) (hereinafter “Touzni”); objected to claims 4-7 and 11-14 as being dependent upon a rejected base claim.

Claims 2-7 and 9-14 are pending in the application.

Rejection of Claims 2 and 9 under 35 U.S.C. § 103(a)

The Examiner rejected claims 2 and 9 under 35 U.S.C. § 103(a) as being unpatentable over the APA in view of Takao. Applicant respectfully traverses for the following reasons:

First, the Examiner’s proposed combination is improper because it is based on impermissible hindsight reconstruction. Specifically, the Examiner writes that it would have been obvious to combine the APA and Takao because:

“... [both] the **modified** circuit of the admitted prior art of the instant application and Takao et al. samples the quadrature component signals with the sample shifted clock” (emphasis added)

In other words, the Examiner makes a conclusion of obviousness based on a similarity between the “modified” circuit of Figure 15, that is, **Applicant’s own claimed invention**, and Takao. Such a proposed combination is improper because it relies on knowledge gleaned from Applicant’s disclosure, not solely knowledge available to those of ordinary skill in the art at the time the invention was made. MPEP § 2145(X)(A)

Second, the Examiner’s proposed combination would not be obvious because it is based on reasoning that is inconsistent with the knowledge of the art. Specifically, the Examiner writes:

“It would have been obvious to one of ordinary skill in the art at the time of the invention was made to include the clock timing recovery circuit 5a as taught by Takao et al. in between STR 28 and ADCs 32 and 34 of the admitted prior of the instant application . . . so that the distortion can be easily detected to improve the quality.”

As a preliminary matter, Applicant assumes that where the Examiner writes “clock timing recovery circuit 5a,” he actually means the entire circuit of Figure 11 (including quadrature detector 1, oscillator 41, ADCs 2 and 3, and baseband circuit 4) because the input of clock timing recovery circuit 5a is a “decision error signal” (column 15, lines 13-15)—something not present in the APA (other than within CR 18). The only input terminal shown in Figure 11 to which the output of STR 28 might possibly be applied is the “IF Signal Input.”

With that said, the Examiner’s reasoning is inconsistent with the knowledge of the art because using Takao’s circuit of Figure 11 to generate the “sample clock” from the “symbol clock” would not further “easily detecting the distortion.” In fact, doing so would actually *impair* the APA’s operation by introducing undesirable and unnecessary clock recovery jitter and phase-locked-loop bandwidth characteristics to the “sample clock.”

Third, the Examiner’s proposed combination does not teach or suggest “generating a sample clock having a period equal to the symbol clock, the sample clock being shifted one-half period in phase with respect to the symbol clock.” The Examiner writes that Takao “inherently” generates pseudo-symbols and points to Takao’s phase shift circuit 7. However, even if one did insert Takao’s circuit of Figure 11 “in between STR 28 and ADCs 32 and 34,” Takao’s phase shift circuit would not shift the phase of Applicant’s “sample clock.” Instead, it would shift the phase of Takao’s system clock generator 6.

For all of these reasons, the Examiner has failed to establish a *prima facie* case of obviousness. Accordingly, Applicant requests that the rejection of claims 2 and 9 under 35 U.S.C. § 103(a) be withdrawn.

Rejection of Claims 3 and 10 under 35 U.S.C. § 103(a)

The Examiner rejected claims 3 and 10 under 35 U.S.C. § 103(a) as being unpatentable over the APA in view of Takao and further in view of Touzni.

Claims 3 and 10 are allowable because they depend from claims 2 and 9 respectively, both of which are allowable for the reasons discussed above. Furthermore, the addition of Touzni does not remedy any of the deficiencies of the Examiner’s proposed combination regarding claims 2 and 9 discussed above.

For these reasons, the Examiner has failed to establish a *prima facie* case of obviousness. Accordingly, Applicant requests that the rejection of claims 3 and 10 under 35 U.S.C. § 103(a) be withdrawn.

Objection to Claims 4-7 and 11-14

The Examiner objected to claims 4-7 and 11-14 as being dependent upon a rejected base claim, but indicated that they would be allowable if rewritten into independent form including all of the limitations of the base claim and any intervening claims.

Applicant submits that claims 4-7 and 11-14 are allowable in their present form because they depend from claims 2 and 9 respectively, both of which are in allowable for the reasons discussed above. Accordingly, Applicant requests that the objection to claims 4-7 and 11-14 be withdrawn.

Conclusion

In view of the foregoing remarks, allowance of claims 2-7 and 9-14 is urged, and such action and the issuance of this case are requested.

Respectfully submitted,
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March 26, 2008

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